presenting a process interface in the presented division pattern of the processes, displaying distinction between public data and private data, said public data being external data used as interfaces to processes in other division, and private data being internal data used only within processes in a division.

REMARKS

In the Office Action mailed on February 11, 2003, claim 5 was rejected under 35 U.S.C. § 112, second paragraph, for insufficient antecedent basis; claim 6 was rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness; and claims 1-18 were rejected under 35 U.S.C. § 102(e) as being anticipated by Mattson, Jr. et al. (U.S. Patent No. 6,430,741) ("Mattson"). The foregoing rejections are respectfully traversed.

Claims 1-18 are pending in the subject application, of which claims 1, 7, and 13 are independent. The specification and claims 1 and 5-18 are amended. Care has been exercised to avoid the introduction of new matter. A Version With Markings To Show Changes Made to the specification and amended claims is included herewith.

Specification Amendments:

The Specification is amended herein, taking the Examiner's comments into consideration and directed to correcting the typographical errors therein.

Rejections Under 35 U.S.C. § 112:

Claims 5, 6, 11, 12, 17, and 18 are amended herein. Support for the amendments to claims 6, 12, and 18 may be found in the Specification on page 16, second full paragraph, and in FIG. 15. The Applicants respectfully request that the Examiner withdraw the rejections of claims 5 and 6.

Rejections Under 35 U.S.C. § 102(e):

An object of the present invention is to identify subsystems that are to be reused in an existing subsystem. The present invention analyzes strength degree of association relationships

between data items and processes. The present invention uses the number of data accesses, but this number of accesses is not the strength degree. In order to analyze the strength degree, the present invention refers to the association coefficients, which reflect the size relationship between access types.

Claims 1, 7, and 13 of the subject application (as amended herein) recite "analyzing strength degree of association relationships between processes and data items based on said data item access state."

Mattson discusses a method of analyzing the number of accesses to each element in data tables of interest during execution of a program and a method of analyzing elements that have not been accessed at all. However, Mattson does not disclose or suggest calculating a strength degree of association between data items and processes, as recited in claims 1, 7, and 13 of the subject application. Further, Mattson is directed to a method for verifying the accuracy of data tables in an efficient way. Therefore, Mattson does not disclose or suggest considering the association relationships between data items and processes, which is necessary to partition a system.

Therefore, claims 1, 7, and 13 of the subject application patentably distinguish over Mattson. Dependent claims 2-6, 8-12, and 14-18 are allowable based in part on their dependency, directly or indirectly, from one of claims 1, 7, and 13.

Withdrawal of the foregoing rejections is respectfully requested.

There being no further objections or rejections, it is submitted that the application is in condition for allowance, which action is courteously requested. Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned

to attend to these matters. If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: _____5-9-2003_____   By: _____

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please AMEND the first full paragraph of the BACKGROUND OF THE INVENTION beginning on page 1, with the following paragraph:

--Even if an existing system is reorganized, main functions in the new system are not very different from those of the existing system. In this situation, subsystems of the existing system are reused to reduce both of the development costs and development term. In order to reuse subsystems, it is necessary to isolate subsystems required for reuse from the other resources in an enormous existing system. Currently, this isolation of subsystems is carried out using design documents at the time of development and/or the knowledge of development engineers, and highly depends on the know how at the time of design. But such a technique that depends on the human experience cannot definitely identify system resources to be reused, and it sometimes causes additional developments costs and [period] time. There is a very real danger of cost increases during development due to design errors of the interface between the reused portions and the newly development portions in addition to the isolation difficulty.--

Please AMEND the section heading on page 5, line 9, with the following section heading:

--DETAILED [DESCRIPATION] DESCRIPTION OF THE PREFERRED EMBODIMENTS--

IN THE CLAIMS:

Please AMEND claims 1 and 5-18. The remaining claims are reprinted, as a convenience to the Examiner, as they presently stand before the U.S. Patent and Trademark Office.

1.   (ONCE AMENDED) A system analysis apparatus for analyzing a system containing one or a plurality of programs, comprising:

means for examining a data item access state in said program; and

an analyzer for analyzing strength degree of association relationships between processes and data items based on said data item access state, each said process being at least one of a program, a set of programs and a program section.

2.   (UNAMENDED) The system analysis apparatus of claim 1, wherein said analyzer comprises:

means for quantifying the types of accesses to the data items and the number of accesses, which are included in said data item access state, and generating the quantified data item access state data.

3.   (UNAMENDED) The system analysis apparatus of claim 2, wherein said analyzer further comprises:

means for correcting said quantified data item access state data according to an external requirement including a system design requirement.

4.   (UNAMENDED) The system analysis apparatus of claim 3, wherein said analyzer further comprises:

means for collecting processes that access to a data item satisfying a predetermined condition in said quantified data item access state data.

5.   (ONCE AMENDED) The system analysis apparatus of claim 4, wherein said analyzer further comprises:

means for presenting at least one of a partitioning pattern of the data items and a division pattern of the processes, using the quantified data item access state data and the collected [process information] processes.

6.   (ONCE AMENDED) The system analysis apparatus of claim 5, further comprising:

means for presenting a process interface in the presented division pattern of the processes, displaying distinction between public data and private data, said public data being external data used as interfaces to processes in other division, and private data being internal data used only within processes in a division.

7.   (ONCE AMENDED) A system analyzing method, for analyzing a system containing one or a plurality of programs, comprising [the steps of]:

examining a data item access state in the program; and

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analyzing <u>strength degree of</u> association relationships between processes and data items based on said data item access state, each said process being at least one of a program, a set of programs and a program section.

8.   (ONCE AMENDED) The system analysis method of claim 7, wherein said analyzing [step] comprises [a step of]:

quantifying the types of accesses to the data items and the number of accesses, which are included in said data item access state, and generating the quantified data item access state data.

9.   (ONCE AMENDED) The system analysis method of claim 8, wherein said analyzing [step] further comprises [a step of]:

correcting said quantified data item access state data according to an external requirement including a system design requirement.

10.   (ONCE AMENDED) The system analysis method of claim 9, wherein said analyzing [step] further comprises [a step of]:

collecting processes that access to a data item satisfying a predetermined condition in said quantified data item access state data.

11.   (ONCE AMENDED) The system analysis method of claim 10, wherein said analyzing [step] further comprises [a step of]:

presenting at least one of a partitioning pattern of the data items and a division pattern of the processes, using the quantified data item access state data and the collected [process information] <u>processes</u>.

12.   (ONCE AMENDED) The system analysis method of claim 11, further comprising [the step of]:

presenting a process interface in the presented division pattern of the processes<u>, displaying distinction between public data and private data, said public data being external data used as interfaces to processes in other division, and private data being internal data used only within processes in a division</u>.

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13.   (ONCE AMENDED) A storage medium for storing an analysis program for analyzing a system containing one or a plurality of programs, said analysis program causing a computer to execute [the steps of] operations comprising:

examining a data item access state in the program; and

analyzing strength degree of association relationships between processes and data items based on said data item access state, each said process being at least one of a program, a set of programs and a program section.

14.   (ONCE AMENDED) The storage medium of claim 13, wherein said analyzing [step] comprises [a step of]:

quantifying the types of accesses to the data items and the number of accesses, which are included in said data item access state, and generating the quantified data item access state data.

15.   (ONCE AMENDED) The storage medium of claim 14, wherein said analyzing [step] further comprises [a step of]:

correcting said quantified data item access state data according to an external requirement including a system design requirement.

16.   (ONCE AMENDED) The storage medium of claim 15, wherein said analyzing [step] further comprises [a step of]:

collecting processes that access to a data item satisfying a predetermined condition in said quantified data item access state data.

17.   (ONCE AMENDED) The storage medium of claim 16, wherein said analyzing [step] further comprises [a step of]:

presenting at least one of a partitioning pattern of the data items and division pattern of the processes, using the quantified data item access state data and the collected [process information] processes.

18.   (ONCE AMENDED) The storage medium of claim 11, wherein said analysis program causes said computer to further execute [a step of] operations comprising:

presenting a process interface in the presented division pattern of the processes.

displaying distinction between public data and private data, said public data being external data used as interfaces to processes in other division, and private data being internal data used only within processes in a division.